

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
21 February 2002 (21.02.2002)

PCT

(10) International Publication Number  
**WO 02/14976 A2**(51) International Patent Classification<sup>7</sup>:

G06F

(74) Agent: KIM, Won-Ho; Teheran Building, 825-33, Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(21) International Application Number: PCT/KR01/00917

(22) International Filing Date: 31 May 2001 (31.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2000/47888 18 August 2000 (18.08.2000) KR

(71) Applicant (for all designated States except US): INTRO-MOBILE CO., LTD. [KR/KR]; 10F, Hyundai Tower Building, 143-37, Samsung-dong, Kangnam-ku, Seoul 135-743 (KR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): HWANG, Sun-Yang [KR/KR]; Hyundai 3-cha Apartment, 302-2603, Daeil-dong, 608, Yongdungpo-ku, Seoul 150-070 (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

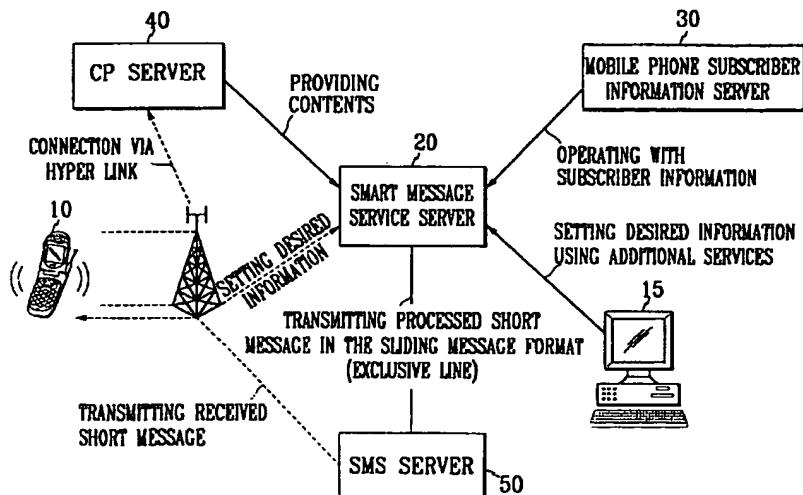
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

*[Continued on next page]*

(54) Title: SMART MESSAGE SOLUTION HAVING MOBILE ADVERTISING FUNCTION IN MOBILE COMMUNICATION TERMINAL, DRIVING METHOD THEREOF, AND METHOD AND SYSTEM FOR SMART MESSAGE SERVICE USING SAME



WO 02/14976 A2

(57) Abstract: A mobile communication terminal device, a driving method thereof and a method and system for the smart message service by using the same are provided, wherein the mobile communication terminal device having a smart message function includes a display unit, a wireless receiver, a memory having at least one stack for storing smart messages, and a controller for checking whether a short message is a general short message or a smart message if the short message is received via the wireless receiver, so as to store the smart message to a stack of the memory and extract the smart message stored in the stack to output a display signal to the display unit for a predetermined set period.



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**SMART MESSAGE SOLUTION HAVING MOBILE ADVERTISING  
FUNCTION IN MOBILE COMMUNICATION TERMINAL, DRIVING  
METHOD THEREOF, AND METHOD AND SYSTEM FOR SMART  
MESSAGE SERVICE USING SAME**

5

**BACKGROUND OF THE INVENTION**

**(a) Field of the Invention**

The present invention relates to a smart message solution with a mobile communication terminal device, a driving method thereof and a 10 method and system for the smart message service by using the same, wherein smart message information set by a user is provided to a mobile communication terminal device of the user and the provided smart message information is displayed by the smart message function.

**(b) Description of the Related Art**

15 In a general mobile communication service system, in order to transmit certain information to a user, the information is provided in the form of a short message so that received information in the form of the short message is stored in a mobile communication terminal device as a simple message. Further, in order to provide continuous information to the user, the 20 information is transmitted by the short message every time. Therefore, a short message service (SMS) server, which has to form and transmit the short message every time, has a problem of excessive load.

Furthermore, there is a problem in that the efficiency of using the information is relatively low since the user does not use the received

information that was transmitted in the short message form continuously, but rather temporarily.

Also, there is another problem, in that according to a related art information transmission, the information is not set by the user and only some specialized information such as securities information is limitedly transmitted to the user via the SMS, so that the user cannot set or use various other information.

There is a still another problem in that it is impossible to transmit image or video-type information to the user by the information transmission service using the SMS, since an amount of data able to be transmitted at one time is limited (for example, 80KByte).

There is still a further problem in that it is impossible to connect the user to related web sites by a hyper link function for more interactive action between the user and the web sites, since the information transmission service using the SMS ends as some information is simply transmitted.

Furthermore, according to the related art, information is able to be obtained only when the user is connected to the internet, and it is not possible to obtain specialized information to be provided to corresponding users.

20

### SUMMARY OF THE INVENTION

Therefore, the present invention is derived to resolve the above disadvantages and problems of the related art, and it has an object to provide a smart message solution having a smart message function in a mobile communication terminal device for receiving smart messages as personal

information to store, and to display the stored smart messages.

It is another object of the present invention to provide a method for driving the mobile communication terminal device having the smart message function.

5 It is still another object of the present invention to provide a method for providing information required by an orderer and a smart message service by using a mobile communication network, in order to provide information to a user who desires the information, according to a personal information setting carried out by a mobile communication terminal device or a personal  
10 computer of the user, that is able to connect to the Internet.

It is a still further object of the present invention to provide a system for carrying out the smart message service method by using the mobile communication network.

In one aspect of the present invention, a mobile communication  
15 terminal device having a smart message function comprises: a display unit; a wireless receiver; a memory having at least one stack for storing a smart message; and a controller for checking whether a short message is a general short message or a smart message if the short message is received via the wireless receiver, and when a smart message is received, storing the smart  
20 message in a stack of the memory, extracting the smart message stored in the stack, and outputting the same to the display unit for a predetermined set period.

The smart message comprises: a first message for recognizing the short message; a second message for recognizing a smart message header;  
25 a third message for assigning a position of the smart message to be stored in

the stack; and a fourth message to be stored in the stack and displayed on the display unit, wherein the first to fourth messages are in sequence from a highest bit to a lowest bit.

In another aspect of the present invention, a method for driving a mobile communication terminal device having a smart message function comprises: (a) checking a category of a received short message as the short message is received via a mobile communication network; (b) displaying a general short message if the received short message is a general short message, and returning to (a); (c) classifying and storing a smart message if 10 the received short message is a smart message; (d) sequentially extracting the stored smart message, displaying the same according to a preset period, and checking whether or not an assigned key is input; (e) returning to (d) if the assigned key is not input in (d); and (f) driving a browser of a mobile communication terminal device if the assigned key is input in (d), and moving 15 to a site corresponding to the smart message.

#### BRIEF DESCRIPTION OF THE DRAWINGS

A more complete appreciation of the invention, and many of the attendant advantages thereof, will be readily apparent as the same becomes 20 better understood by reference to the following detailed description when considered in conjunction with the accompanying drawings, in which like reference symbols indicate the same or similar components, wherein:

Fig. 1 is a view for explaining a smart message service system using a mobile communication network according to a preferred embodiment of the 25 present invention;

Fig.2 is a view for explaining a smart message service system using a mobile communication network according to a preferred embodiment of the present invention, in more detail;

Fig. 3 is a block diagram for explaining the structure of a mobile communication terminal device according to a preferred embodiment of the present invention;

Fig. 4 is a view for explaining a method for displaying a smart message according to a preferred embodiment of the present invention; and

Fig. 5 is a flowchart for explaining step S40 of Fig. 4 in more detail.

10

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention will be explained in more detail with reference to preferred embodiments in conjunction with the attached drawings.

Fig. 1 is a view for explaining a smart message service system using a mobile communication network according to a preferred embodiment of the present invention.

In Fig. 1, the smart message service system using a mobile communication network according to a preferred embodiment of the present invention includes a mobile communication terminal device 10, a user personal computer (PC) 15 connectable to the Internet, a smart message service server 20, a subscriber information server 30 of the mobile communication terminal device 10, a contents providing server 40, and a short message service server 50.

Here, the smart message includes text messages, image messages

and advertisement messages.

The mobile communication terminal device 10 sets desired information by accessing the smart message service server 20 via a mobile communication network, receives the set information in the form of short messages via the mobile communication network, stores the received information in a memory of the mobile communication terminal device, and displays the stored information in a sliding format for a preset uniform period, wherein the mobile communication terminal device is one of a mobile phone, a personal data assistant (PDA), a handheld PC and the like.

10        The user PC 15 accesses the smart message service server 20 via an Internet backbone network and sets desired information together with a number of a destination mobile communication terminal device that is to receive the set information, wherein a display type of the set information may be confirmed by preview. Further, categories of information are as various as 15 the contents providing server 40 provides, for example, news information, securities information, educational information, weather information, shopping information, schedules, auction information and the like. Furthermore, types of the information able to be set are text-type, image-type, moving picture-type and the like. If information of the image-type or the 20 moving picture-type is received, the information may be displayed on a screen of the mobile communication terminal device in association with an additional decoder in the terminal device.

In the smart message service server 20, the information desired is set via the mobile communication network from the mobile communication 25 terminal device 10, and the smart message service server 20 receives the

contents that are provided from the contents providing server 40 on the basis of the subscriber information from the mobile phone subscriber information server 30, so that the contents provided from the contents providing server 40 are converted into short messages of a smart message format to be 5 provided to the short message service server 50, wherein the processed short messages are preferably transmitted via an exclusive line.

The contents providing server 40 provides various contents such as news information, securities information, educational information, weather information, shopping information, schedules, auction information and the like 10 to the smart message service server 20.

The short message service server 50 receives short messages, which are processed into the smart message format from the smart message service server 20, and transmits the short messages via the mobile communication network.

15 Even though the conversion of the various contents into the short messages of the smart message format is exemplarily explained with reference to the use of the short message service server SMS that is utilized in the PCS mobile communication network, it is obvious to those skilled in the art that the components for such a conversion may be substituted for those 20 which convert the contents into short messages by using the IMT 2000 as the IMT 2000 is commercialized.

Fig. 2 is a view for explaining the smart message service system using a mobile communication network according to a preferred embodiment of the present invention, in more detail.

25 Referring to Fig. 2, the smart message service system using a mobile

communication network according to a preferred embodiment of the present invention includes a user system 100, a mobile communication network system 200, a smart message providing system 300, and a contents providing system 400.

5       The user system 100 includes a mobile communication terminal device 110 and a user PC 120 that is connectable to the Internet. The user system 100 is connected to the smart message providing system 300 via the mobile communication network system 200 to set desired information, and receives the set information via the mobile communication network system  
10 200.

At this time, the provided information is stored in a memory of the mobile communication terminal device 110 and the stored information is displayed in a scrolling format on the display screen of the mobile communication terminal device. If more detailed information is required than  
15 that contained in the scrolled information, wireless hyperlinks to corresponding mobile Internet sites will be provided for a more interactive service.

Application programs for carrying out the above operations are based on the existing mobile communication terminal devices as well as KJAVA and  
20 the operating system OS employed in other mobile communication terminal devices, wherein other mobile communication terminal devices in which such functions are not basically supported become available by downloading the functions via KJAVA and other OS-based or solution-based or virtual machine based (e.g., GVM or MAP) application programs.

25       The structure of the short messages received in the mobile

communication terminal device will now be briefly explained, as follows:

SMS header	smart message header	stack-assigning message	stack-storing message
------------	----------------------	-------------------------	-----------------------

The SMS block is an essential area of the short message service, and the PDA header block, the stack-assigning message block and the stack-storing message block are random data areas.

- 5        The SMS header is a message block in accordance with IS-637 (SMS relating TIA Standard) and the smart message header is a message block for recognizing smart messages. A smart message head message block is preferably displayed in the ASCII format or another format which can be recognized by the smart message application in the mobile communication  
 10 device, for example, 1B(ESC)00(NULL)/XXXX16(X(don't care) is randomly used), so that it becomes possible to check whether a received short message is a smart message or not. The smart message head message block may be encoded for the sake of security, in order to prevent decoding and opening of a certain smart message by a mobile communication terminal  
 15 user who is not properly authorized to receive the contents.

As described above, the encoding for blocking opening of the smart message by a third party may be applicable to not only the smart message head message block but also to the stack-assigning message and stack-storing message.

- 20       The stack-assigning message is a message block for assigning a stack to store a message, and the stack-storing message is a message to be stored in a stack. If the block begins with an assigned code, for example, 1B00 (16 real numbers), its corresponding stack is processed to be a blank,

and the message for assigning this stack is represented by 1 byte. For example, in the case of  $00_{16}$ , a message is stored in a stack number 1, and in the case of  $01_{16}$ , a message is stored in a stack number 2. Further, if a block of the stack-storing message begins with an assigned code, for example, 5  $1B00_{16}$ , its corresponding stack is processed to be a blank.

Even though the assigning of a smart message is exemplarily explained with reference to the SMS data format that is a short message service used in the cellular mobile communication network, it is obvious to those skilled in the art that it is also possible to assign the smart message to 10 a certain message format related to IMT 2000 service as the IMT 2000 service is commercialized, wherein a message format appropriate to transmit the smart message via the mobile communication network is the push-type message format that employs the mobile IP of the IMT 2000.

The information, which is provided from the smart message providing 15 system 300, may be extended to audio and video stream information from text-centered information. Of course the audio and video stream information may be more greatly utilized as the IMT 2000 is commercialized.

The mobile communication network system 200 includes a base station 210, a base station controller 220, an exchange 230, an inter working 20 function IWF controller 240, a short message service server 250, and a mobile communication subscriber information server 260. The mobile communication network system 200 is connected to the mobile communication terminal device of the user system 100 and the smart message providing system 300, for carrying out general signal processing 25 with the mobile communication terminal device 110 and simultaneously.

providing smart message requesting information to the smart message providing system 300 as the smart message requesting information is input from the mobile communication terminal device 110 so that a smart message is provided from the smart message providing system 300 to the 5 corresponding mobile communication terminal device.

Further, an operation (or a carrier) of the mobile communication network system 200 may provide various advertisement services, publicity of policies and campaigns for each customer, so that it is possible to carry out close maintenance of subscribers.

10 The smart message providing system 300 includes a wireless Internet server 310, a web server 320 and a smart message service server 330, and it is connected to the mobile communication network system 200, the contents providing system 400 and the PC 120 of the user system 100. If smart message requesting information such as the kinds of information 15 desired is input from the user system 100 via the mobile communication network or the internet backbone network, the smart message providing server 300 processes contents corresponding to the smart message requesting information among the various contents which are provided by the contents providing system 400, into the smart message format and transmits 20 the processed contents to the smart message service server 330.

In more detail, if the requesting information is input from the IWF controller 240 of the mobile communication network system 200, a wireless application provider server WAP as the wireless Internet server 310 provides the requesting information to the smart message service server 330.

25 The web server 320 maintains a predetermined web page. If a

request of information desired via the mobile communication terminal device is input from the user PC 120 via the Internet backbone network, the web server 320 provides the request to the smart message service server 330.

If it is desired to confirm a display type of the information desired by 5 the user PC 120 on the mobile communication terminal device, the web server 320 displays a predetermined virtual phone on the web page and outputs the smart message on the display screen of the virtual phone in the form of a print preview.

The smart message service server 330 is provided with various 10 contents from the contents providing server 400, when it is requested to set information desired by the user system 100 via the WAP 310 or the web server 320.

Further, the smart message service server 330 selects any one from the provided contents to provide the short message service server 250 of the 15 mobile communication network system 200 with a short message, which is processed into the smart message format on the basis of the subscriber information that is stored in the mobile communication subscriber information server 260. At this time, the smart message service server 330 and the short message service server 250 are preferably connected via an exclusive line.

20 The smart message service server 330 provides ordered information to a particular subscriber by using the subscriber information of a mobile communication network operator (or a carrier), wherein the desired information may be continuously obtained without any connection to the internet after a one-time setting of the corresponding subscriber.

25 Even if the corresponding subscriber does not set any information as

being desired, random information such as some commercial advertisement messages may be provided to the subscriber in a push-type manner from the mobile communication network operator (or a carrier), a contents provider or a terminal manufacturer. Of course, in order to provide a predetermined 5 smart message to the mobile communication terminal device of the corresponding subscriber, the businessman of the smart message providing system 300 may make a predetermined contract with the providers of the mobile communication network system, the contents providing system or the manufacturer of the mobile communication terminal device.

10        If the user selects information desired on wire or wireless web sites, the corresponding information is transmitted to the mobile communication terminal device of the user whenever the information is updated to display a smart message on the display screen of the user mobile communication terminal device.

15        Even though the smart message providing system 300 is explained in separation of the mobile communication network system 200 from the contents providing system 400 for the sake of convenience of explanation, it is also possible to constitute the smart message providing system in combination with the mobile communication network system and the contents 20 providing system, and it is obvious to those skilled in the art that such a combination is not substantially different from the scope of the spirit of the present invention. For example, the mobile communication network system unit may push its own smart message-formatted information or advertisement information by using the smart message providing system that provides the 25 sliding-type smart message output from the mobile communication terminal

device, and on the other hand, the contents providing system unit may perform a similar operation to the mobile communication network system unit.

Fig. 3 is a block diagram for explaining the construction of a mobile communication terminal device according to a preferred embodiment of the present invention.

Referring to Fig. 3, a controller 530 controls the whole operation of the mobile communication terminal device. In the present invention, if a short message is received via a duplexer 510 and a wireless receiver 524, it is determined whether the received short message is a general short message or a smart message. If the received short message is determined to be a general short message, the general short message is displayed by a display unit 574. On the other hand, if the received message is determined to be a smart message, the smart message is stored in a memory 540 and displayed periodically by the display unit 574.

In more detail, if the mobile communication terminal device operates in a standby mode, the controller 530 extracts smart messages that have already been stored in the memory and periodically displays the extracted smart messages.

On the other hand, if the mobile communication terminal device operates in an online mode, for example if a user carries out wireless connection to the Internet by using the mobile communication terminal device, the controller 530 extracts the smart messages that have already been stored in the memory and periodically displays the extracted smart messages.

The display unit 574 of the mobile communication terminal device outputs a message according to the online mode operation of the mobile communication terminal device as a first display, and outputs a smart message as a second display together with the first display. As shown in Fig. 5 2, the transmission of the smart message from the smart message service server 330 to the mobile communication terminal device 110 may be carried out via a data communication channel that is online.

The key input unit is formed of a key matrix structure (not illustrated) and includes numerical keys for dialing and other various function keys, so 10 that the key input unit outputs to the controller 530 a key input signal according to a key input of a user. In more detail, the display unit 574 of the present invention outputs to the controller 530 a key input signal for setting a period for displaying smart messages or a key input signal for setting hyper links to wireless internet sites corresponding to the displayed smart 15 messages.

The memory 540 includes a flash RAM incorporating a program that stores control data required for carrying out the control of the whole system, a fixed memory for storing various phone numbers and names, and a RAM for temporarily storing and processing data that are generated in the process 20 of program controlling. In the present invention, the memory 540 includes a plurality of stacks for respectively storing smart messages according to the classification that is carried out by the controller 530.

Fig. 4 is a view for explaining a method for displaying smart messages according to a preferred embodiment of the present invention.

25 Referring to Fig. 4, the method for displaying smart messages

includes the steps of checking whether a short message is received or not (step S10), and checking whether the short message is a smart message or not, if the short message is received in step S10 (step S20).

If the short message that is received in step S20 is determined to be  
5 a general short message, the general short message is displayed by the display unit 574 and the routine is returned to step S10.

On the other hand, if the short message that is received in step S20 is determined to be a smart message, the smart message is classified (step S30) and stored in a corresponding stack of the memory (step S35). The  
10 smart message to be received may be set by a user of the mobile communication terminal device or randomly pushed by the contents provider for their advertisement.

Next, the smart messages stored in the plurality of stacks are extracted to be displayed by the display unit (step S40), and it is determined  
15 whether any assigned key is input or not (step S50). The assigned key is input via the key input unit 576 when the user requests more detailed information in relation to the displayed smart message. If the assigned key is not input, the routine is returned to step S40. Otherwise, a browser of the mobile communication terminal device is driven (step S60) to move to a  
20 corresponding site (step S70). Of course, it is obvious to those skilled in the art that a hyper link code for the connection to a web site is included in the smart message that is provided to the mobile communication terminal device, for providing more detailed information in relation to the smart message.

According to the present invention as described hereinabove, the  
25 smart message displayed in the mobile communication terminal device is

stored in the memory of the mobile communication terminal device to be periodically displayed in sliding manners, thereby maximizing the utility of the provided information, which is the very difference from the related art mobile communication terminal device in which the general short message is  
5 displayed only once.

Even though the mobile communication terminal is set to the online mode and operates in the online mode, it is possible to display messages according to the online mode at a side of the display unit and smart messages at the other side of the display unit so that a predetermined  
10 multi-tasking performance may be carried out.

Fig. 5 is a flow chart for explaining step S40 of Fig. 4 in more detail.

Referring to Fig. 5, under the circumstance that power of the mobile communication terminal device is turned on and the display of the smart message is turned on, it is determined whether a message stored in a first  
15 stack is a blank message or not (step S410), and the message stored in the first stack is displayed (step S415) if the message is not a blank message.

If the message stored in the first stack is determined to be a blank message in step S410 and the display of step S415 is not carried out, it is determined whether a message stored in a second stack is a blank message  
20 or not (step S420). If the message stored in the second stack is not a blank message, the message is displayed (step S425).

The smart messages stored in the plurality of stacks of the memory are extracted in the above manner to be displayed. The display of the smart messages is carried out in a scroll type on the display unit of the mobile  
25 communication terminal device.

As described hereinabove, according to the present invention, even though a short message is not continuously transmitted to the user for providing useful information, the useful information may be stored in the mobile communication terminal device of the user and displayed periodically 5 in scroll type, thereby reducing the load of the system of the information provider.

Further, the user may continuously check the usefulness of the information that is provided to him, thereby maximizing the utility of the information.

10 Furthermore, the user may set specialized information such as securities information as well as various contents provided from the contents provider as the information desired, thereby diversifying the categories of received information.

Also, the user may be provided with more detailed information in 15 relation to the already provided information via the interactive setting through the connection to the relating web sites by the hyper link function.

In addition, the manager of the mobile communication network may carry out various advertisement services, publicity of policies and campaigns for each customer, thereby achieving close maintenance of subscribers.

20 While the present invention has been described in detail with reference to the preferred embodiments, those skilled in the art will appreciate that various modifications and substitutions can be made thereto without departing from the spirit and scope of the present invention as set forth in the appended claims.

WHAT IS CLAIMED IS :

1. A mobile communication terminal device having a smart message function, comprising:
  - 5        a display unit;
  - a wireless receiver;
  - a memory having at least one stack for storing a smart message; and
  - a controller for checking whether a short message is a general short message or a smart message if the short message is received via the
  - 10      wireless receiver, and when a smart message is received, storing the smart message in a stack of the memory, extracting the smart message stored in the stack, and outputting the same to the display unit for a predetermined set period.
2. A mobile communication terminal device of claim 1, wherein the  
15      smart message comprises:
  - a first message for recognizing the short message;
  - a second message for recognizing a smart message header;
  - a third message for assigning a position of the smart message to be stored in the stack; and
  - 20        a fourth message to be stored in the stack and displayed on the display unit,

          wherein the first to fourth messages are in sequence from a highest bit to a lowest bit.
3. A mobile communication terminal device of claim 1, wherein the  
25      smart message includes a hyper link code for connection with a web site

providing detailed information.

4. A mobile communication terminal device of claim 1, wherein the display unit includes more than one display line so as to display the smart message in a scrolling manner.

5 5. A mobile communication terminal device of claim 1, wherein the predetermined set period is manipulated by a user or by a provider of the smart message.

6. A method for driving a mobile communication terminal device having a smart message function, comprising:

10 (a) checking a category of a received short message as the short message is received via a mobile communication network;

(b) displaying a general short message if the received short message is a general short message, and returning to (a);

15 (c) classifying and storing a smart message if the received short message is a smart message;

(d) sequentially extracting the stored smart message, displaying the same according to a preset period, and checking whether or not an assigned key is input;

20 (e) returning to (d) if the assigned key is not input in (d); and

(f) driving a browser of a mobile communication terminal device if the assigned key is input in (d), and moving to a site corresponding to the smart message.

7. A method for driving a mobile communication terminal device having a smart message function of claim 6, wherein (d) comprises:

25 (d-1) checking whether display of the smart message is turned on or

off by manipulation of a user;

(d-2) turning off the display of the smart message if the smart message is turned off by manipulation of the user in (d-1);

(d-3) sequentially checking messages stored in a stack of the  
5 memory if the smart message is turned on in (d-1); and

(d-4) checking messages of a next stack if the messages stored in the previous stack are blank messages, and displaying a smart message if the message stored in the next stack is a smart message.

8. A method for driving a mobile communication terminal device  
10 having a smart message function of claim 6, wherein the preset period is set by manipulation of a user or by a smart message provider.

9. A smart message service method using a mobile communication network comprising:

(a) receiving contents information to be provided to a mobile  
15 communication terminal device;

(b) converting the contents information into a sliding message format so as to display the contents information to the mobile communication terminal device in the sliding format; and

(c) transmitting a smart message that is converted from a sliding  
20 message to a message format appropriate to transfer via the mobile communication network, to the mobile communication terminal device.

10. A smart message service method of claim 9, wherein the contents information is provided according to a request for desired information or according to a setting of a contents provider that pushes  
25 advertisement messages via the mobile communication network using a

mobile communication terminal device or an Internet backbone network through a user's personal computer.

11. A smart message service method of claim 9, wherein the smart message includes a hyper link code for connection with a web site providing  
5 detailed information.

12. A smart message service method of claim 9, wherein the message format that is appropriate to transmit via the mobile communication network is a short message format.

13. A smart message service method of claim 9, wherein the  
10 message format that is appropriate to transmit via the mobile communication network is a push-type message format using IMT 2000 mobile Internet protocol (IP).

14. A smart message service system using a mobile communication network, comprising:

15 a mobile communication terminal device for setting desired information via the mobile communication network, receiving and storing a smart message with respect to the set information, and outputting a display of the stored smart message via an incorporated display unit for a predetermined period;

20 a contents providing unit for providing various contents information including news, securities, education, weather, shopping, schedule, and auction information;

a short message processing unit for transmitting a short message to the mobile communication terminal device; and

25 a smart message service unit for receiving the information desired

from the mobile communication terminal device via the mobile communication network or a personal computer user of the mobile communication terminal device via an Internet backbone network, processing the contents information into a sliding message format on the basis of the received information, converting the processed sliding message into a short message, and providing the short message to the short message processing unit.

15. A service system of claim 14, wherein the bulletin information output to the mobile communication terminal device is displayed in a scroll 10 format.

16. A service system of claim 14, wherein the smart message comprises:

a first message for recognizing the short message;  
a second message for recognizing a smart message header;  
15 a third message for assigning a position of the bulletin message to be stored in a stack; and

a fourth message to be stored in the stack,  
wherein the first to fourth messages are in sequence from a highest bit to a lowest bit.

20 17. A smart message service system of claim 14, wherein the smart message includes a hyper link code for connection with a web site providing detailed information.

18. A smart message service system of claim 14, wherein the display unit includes more than one display line and displays the smart 25 message to the display lines in a scrolling manner.

19. A mobile communication terminal device of claim 1, wherein the controller extracts the smart message in a case of a standby mode of the mobile communication terminal device, and displays the message for a preset uniform period.

5        20. A mobile communication terminal device of claim 1, wherein the controller extracts the smart message in a case of an online mode of the mobile communication terminal device and displays the message for a preset uniform period.

10      21. A mobile communication terminal device of claim 20, wherein the display unit outputs a message that is received in the online mode as a first display and the smart message as a second display.

15      22. A mobile communication terminal device of claim 1, wherein the smart message includes at least one of text-type, image-type and moving picture-type message.

20      23. A mobile communication terminal device of claim 22, wherein the mobile communication terminal device further comprises a decoder for decoding image information or moving picture information.

25      24. A mobile communication terminal device of claim 1, wherein the mobile communication terminal device is one of a mobile phone, a PDA terminal, a portable handheld PC, and a terminal for IMT 2000 service.

26      25. A method of claim 6, wherein the smart message includes at least one of text-type, image-type, and moving picture-type message.

25      26. A method of claim 6, wherein the smart message is output to be displayed for a preset uniform period in the standby mode of the mobile communication terminal device.

27. A method of claim 6, wherein the smart message is secondarily displayed together with a message to be displayed primarily according to an online mode when the mobile communication terminal device is in the online mode.

5        28. A service system of claim 14, wherein the mobile communication terminal device extracts the smart message in the standby mode case of the mobile communication terminal device, and displays the extracted smart message for a preset uniform period.

10      29. A service system of claim 14, wherein the mobile communication terminal device extracts the smart message in the online mode case of the mobile communication terminal device and displays the extracted smart message for a preset uniform period.

15      30. A service system of claim 29, wherein the display unit outputs a message that is received in the online mode as a first display and the smart message as a second display.

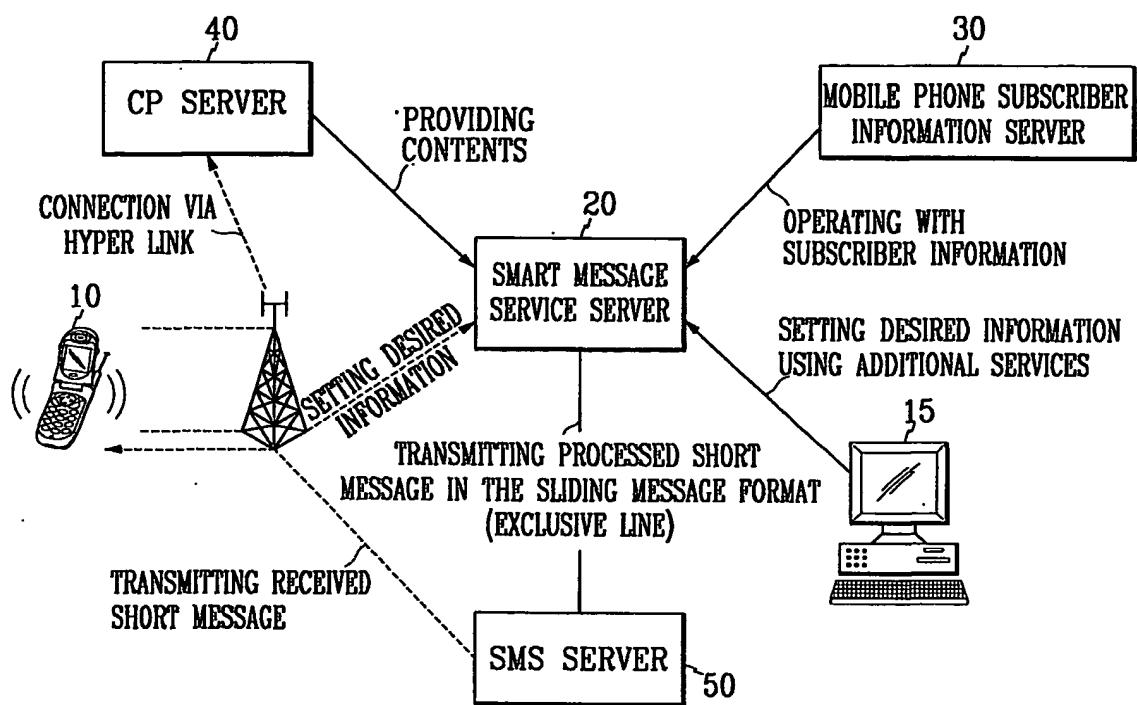
31. A service system of claim 14, wherein the smart message includes at least one of text-type, image-type and moving picture-type message.

20      32. A service system of claim 31, wherein the mobile communication terminal device further comprises a decoder for decoding image information or moving picture information.

33. A service system of claim 14, wherein the mobile communication terminal device is one of a PCS phone, a PDA terminal, a portable handheld PC, and a terminal for IMT 2000 service.

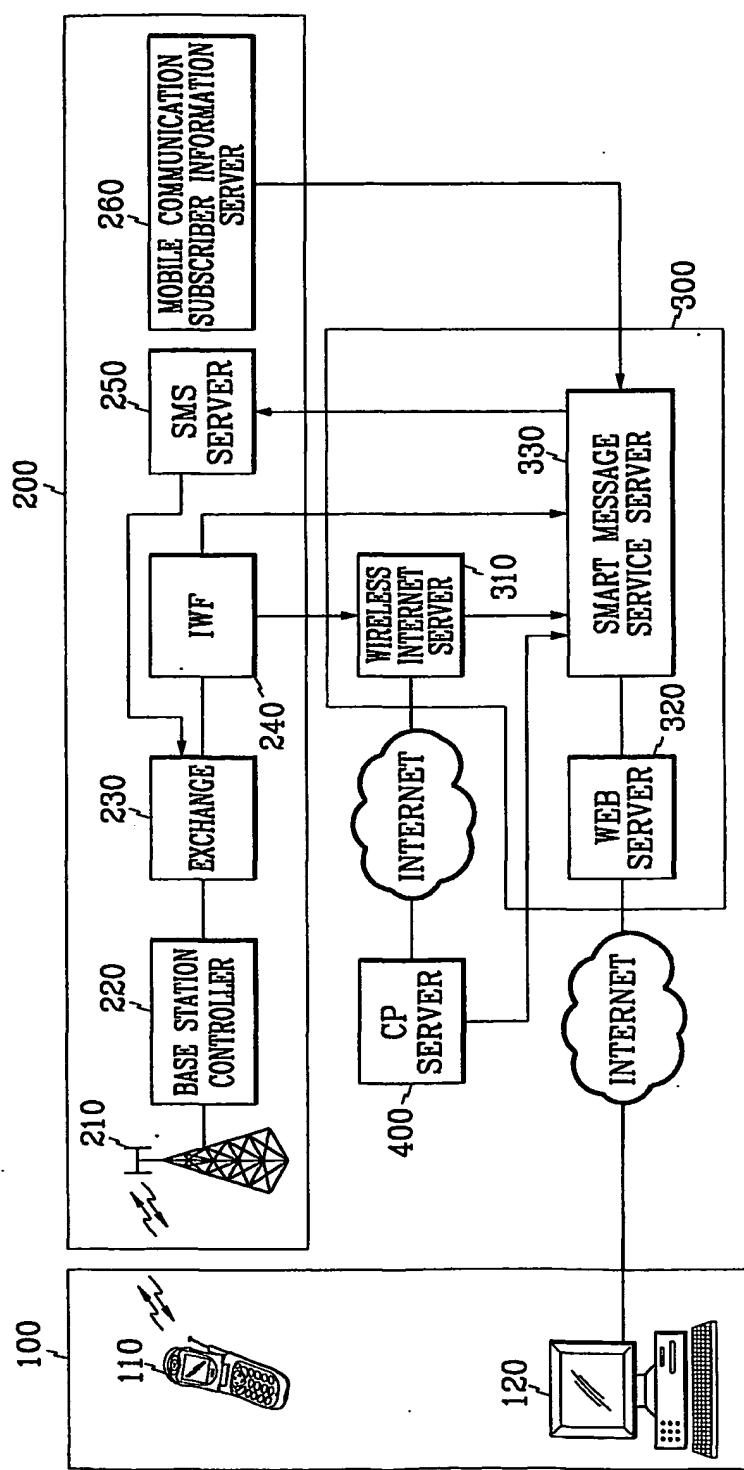
1/5

FIG. 1



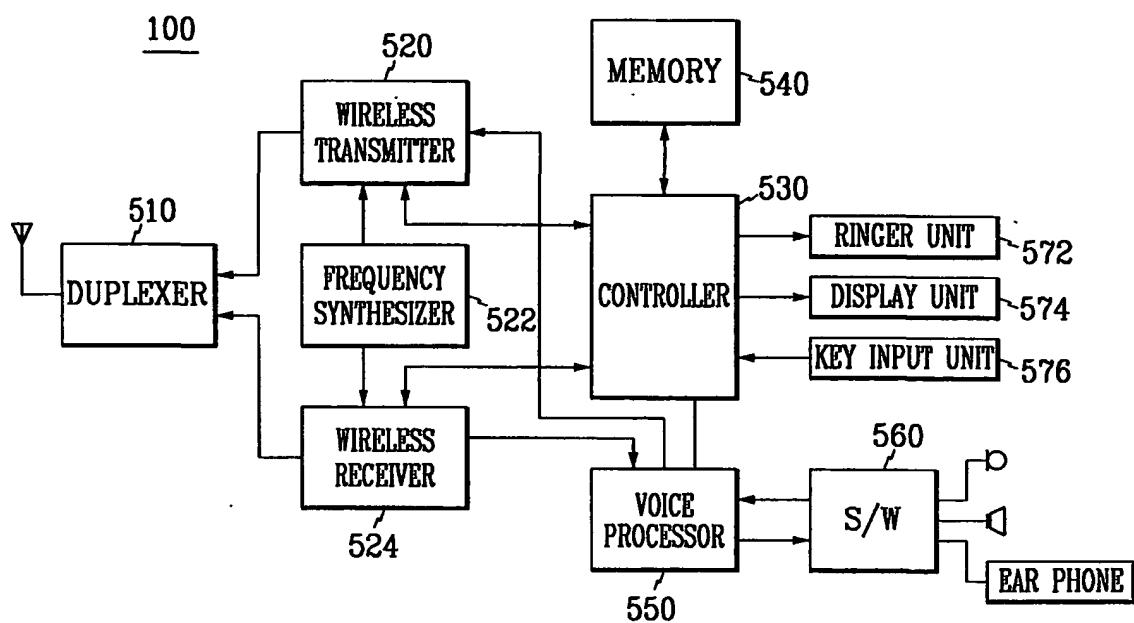
2/5

FIG. 2



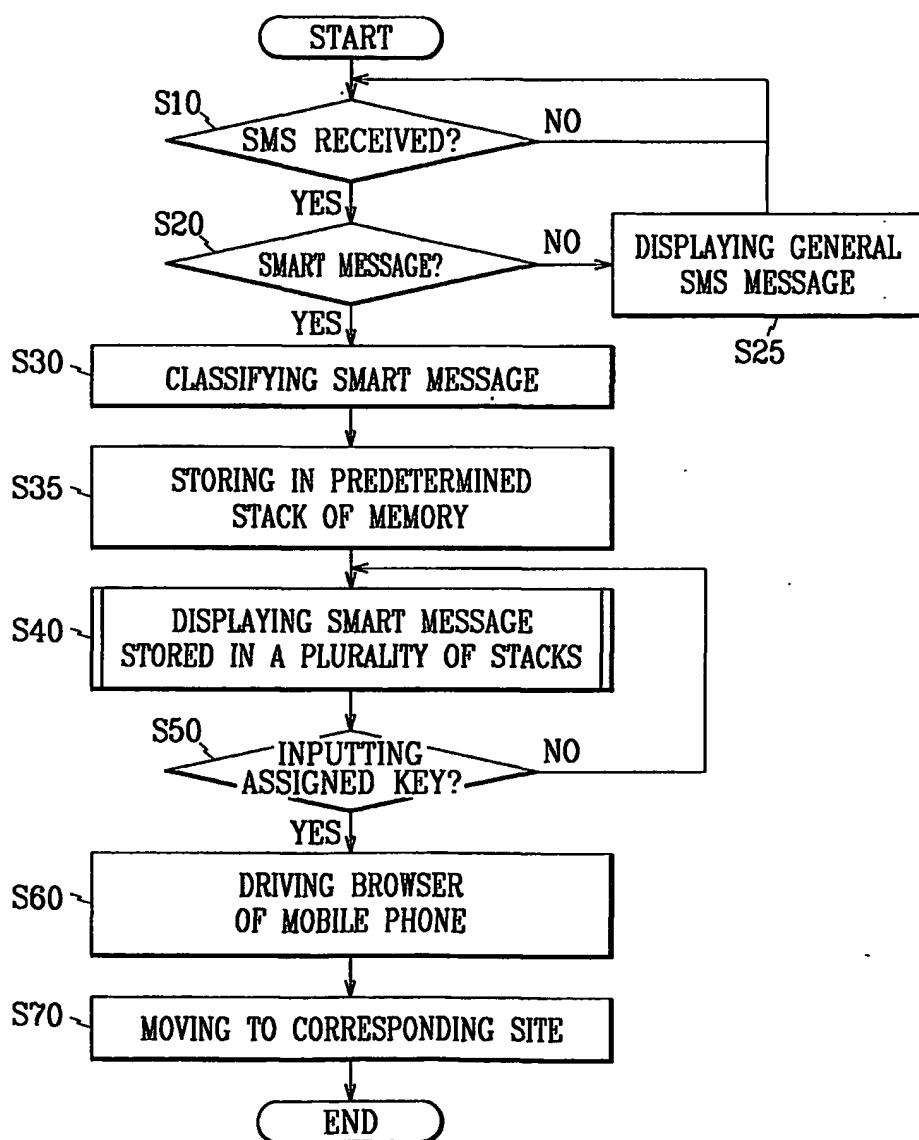
3/5

FIG. 3



4/5

FIG. 4



5/5

FIG. 5

